Revenue Collection and Spending Effectiveness of Nepal Government

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Abstract

This study examined and analyzed the revenue collection and effectiveness of spending for the period of 15 years (2005–2020) of the government of Nepal. The study employed the causal-comparative research design. For the comparison of results, it has demarcated findings before and after 2015, because the government of Nepal adopted a federal system instead of a unitary system in 2015. Where the sources of revenues are independent variables, government spending are mediating variables, and measures of effectiveness are dependent variables. Population growth moderates the relationship between revenue collection and spending. Similarly, corruption and inflation rate moderate the relationship between government spending and measure of effectiveness. The empirical data were taken from the official website of the Nepal Government and the World Bank. Three effectiveness measuring variables have appeared increasing for the study period. But employment to total population ratio has been found to decrease. Government spending has been positively related to per capita income after 2015, which was negative before that period. Government spending on health has been found positive and significant relationship with life expectancy at birth. Education expenditure has been found positively associated with the literacy rate after 2015, whereas there was a negative association before that period. The outcome of the study will be applicable to identify the areas for fiscal policy improvement to better serve its citizen.

Keywords: Government revenue, government spending, government of Nepal, spending effectiveness

Introduction

The government bears the responsibility for basic needs and developmental activities of the nation (Acharya, 2017). The basic needs represent the universally essential needs of the people (Deci & Ryan, 1985; Maslow, 1943). Moreover, the

government assures social amenities, infrastructure development, peace, security and economic stability maintaining macroeconomic indicators (Bhoosal & Byanjankar, 2022). The government spends on recurrent and capital expenditures to support and facilitate economic activities as well as to play the role of caretaker.

The government funds constitute revenue and debt sources of financing. The debt source can be internal and external. The revenue denotes tax revenue (income tax, value-added tax, excise duty, import duty etc.) and non-tax revenue (fine and penalties, grants etc.). Among all the sources of government fund, tax revenue is the major source of revenue generation. Government revenue is more crucial in developing countries as they need developing activities. The developing country needs substantial domestic revenue and effective mobilization. Excessive reliance on foreign debt may lead to the problem of debt sustainability and the never-ending cycle of a debt trap (Gupta, 2007).

The government revenue to GDP ratio of Nepal has increased from 11.51 percent to 19.36 percent during the study period 2005-2015. Even yet, the government's income cannot cover all of its expenses. In the same period government expenditure has also increased to 1038.02 billion (Government expenditure to GDP ratio: 27.9 percent) from 250.81 billion (Government expenditure to GDP ratio: 21.6 percent) (NRB, 2021). The GDP per capita (US dollar) has increased to 1018 US dollars in 2020 from 604 US dollars in 2005. Similarly, the life expectancy at birth, literacy to total population ratio, income tax to GDP ratio, and personal remittance to total revenue have been increasing for the period of 15 years from 2005 to 2020. Whereas, the employment to the total population, the custom duty to total revenue, Other tax to total revenue, and grants to total revenue have been decreased. The revenue mobilization and expenditure rating are stable for the period of 15 years from 2005 to 2020 (World Bank, 2022). In such a situation how is the government able to generate sufficient revenue for capital expenditure and recurrent expenditure? Further the collected revenues have been spent effectively is prime concern for the investigation. In a specific sense, the study deals with the issues that what is the trend and structure of government revenue and expenditure? What is the relationship between government revenue and expenditure? How the government expenditure mediates the relationship between government revenue and measurement of effectiveness? Do the population growth rate and inflation rate moderates the relationship between government revenue and government expenditure? Does corruption moderates the relationship between government expenditure and measure of performance?

Government Revenue

The government revenue is also known as national revenue. It is the revenue received by the government from tax and non-tax sources. The direct tax constitutes income tax, property tax, vehicle tax, capital gain tax etc. The indirect tax constitutes a tax on goods and services, excise duty, and custom duty. The non-tax sources incorporate fines and penalties, gifts and grants etc. (Rosoiu, 2015).

Government Expenditure

The government expenditure is broadly categorized in to recurrent expenditure and capital expenditure. The recurrent expenditures are the operating expenditure of the government. Marica and Piras (2018) argued that the capital expenditures of the government are developmental activities.

There is the relationship between government revenue and expenditure. If the government is able to generate more revenue the more money can be invested in the capital nature expenditure. The capital expenditure of the government supports developmental activities. The developmental activities generate employment and enhance the income level of the people. As the income level increases the government able to collect more revenue. Therefore, there has been causal relationship between government revenue and government expenditure (Bhoosal & Byanjankar, 2022).

In this context the study has attempted to analyze firstly, the trends and patterns of government revenue (income tax, value added tax, custom duty, other tax and grants), government expenditure (recurrent expenditure, capital expenditure, education expenditure, and health expenditure), performance measurement (life expectancy at birth, literacy rate, revenue mobilization and expenditure rating, employment to total population, and GDP per capita). Secondly, the study has attempted to examine the relationship between government revenue collection and the effectiveness of spending. The government expenditures mediate the relationship between government revenue collection and spending effectiveness.

The population growth rate and inflation rate moderate the relationship between government revenue collection and government expenditure. Similarly, corruption and personal remittance and foreign direct investment moderate the relationship between government expenditure and spending effectiveness. The study has employed causal-comparative research design. It has been used secondary data for the period of 15 years from 2005 to 2020. The data have been analyzed using correlation, and regression analysis.

Literature Review

Bhoosal and Byanjankar (2022) analyzed the determinants of government revenue in Nepal employing the Autoregressive Distributed Lag (ARDL) approach to co-integration developed by Pesaran and Shin (1999), and Pesaran et al. (2001). The study argued that GDP per capita, imports, and exchange rates are major determinants of government revenue. Further, the study recommended import-based revenue structure, the capital expenditure to enhance revenue mobilization and enhancing export capacity for the benefit of currency depreciation against the US dollar.

Mall and Pathranarakul (2022) analyzed the fiscal policy and income inequality in the context of developed and developing countries employing the systematic Generalized Method of Moments (GMM) from 2000 to 2019. It has been found that the widening income gap throughout developed and developing countries. The income tax is more progressive and may abate income inequality in the context of developing countries. Whereas the indirect tax has on significant impact on income equalization globally. The government expenditure on education and health has negatively associated with income equalization. Government effectiveness and corruption do not affect significantly on income distribution.

Marica and Piras (2018) the study revealed that the government size and economic growth showed contrasting pattern. The government spending breakdown has significant impact on economic growth.

Rosoiu (2015) analyzed the impact of government revenues and expenditures on economic growth in the context of Romania for the period of 16 years from 1998 to 2014 employing the Granger causality through co-integration vector autoregressive (VRA) methods. The study revealed that government expenditure is a more powerful tool to control the economy. There has bidirectional causal relationship between government revenue and government expenditure. While increasing the government revenue and expenditure it should be considered that the social welfare should be in-tacked.

Table 1

Summary of Literature Review

| Literature	Variables	Findings
Bhoosal & Byanjankar (2022)	Government revenue, imports, GDP per capita, Foreign aid, and Exchange rate.	The GDP per capita, imports and exchange rate are major determinants of government revenue.

Mall & Pathranarakul (2022)	Income inequality, government consumption, government debt, direct tax, indirect tax, government education expenditure, government health expenditure, government effectiveness, democracy, population growth rate, foreign direct investment, GDP per capita, and trade openness.	The study revealed that government expenditure on education and health has been negatively associated with income inequality. The public debt is not found influential to income distribution. Similarly, the taxes on goods and services have an insignificant influence on income equalization. Corruption and government effectiveness do not influence income distribution.
Marica & Piras (2018)	GDP, Economic growth, and government spending	The study revealed that the government size and economic growth showed contrasting patterns. The government spending breakdown has a significant impact on economic growth.
Rosoiu (2015)	Government expenditure, government revenue, interest rate, and GDP.	The bidirectional causal relationship between government revenue and government expenditure. While increasing the government revenue and expenditure it should be considered that the social welfare should be in-tacked.

Conceptual Framework

The sources of government revenue are considered as independent variables (income tax to GDP ratio, value added tax to GDP ratio, custom duty to GDP ratio, and other tax to GDP ratio). Similarly, the performance measuring variables are considered dependent variables (GDP per capita, life expectancy at birth, literacy to total population, and employment to total population). Government expenditure (capital expenditure, recurrent expenditure, education expenditure, and expenditure health expenditure) mediates the relationship between government revenue and government performance. The population growth and inflation rate moderates the relationship between government revenues and expenditures. Similarly, corruption moderates the relationship between government expenditure and performance-measuring variables. Where, the foreign direct investment and remittance are control variables.

Figure 1

Conceptual Framework
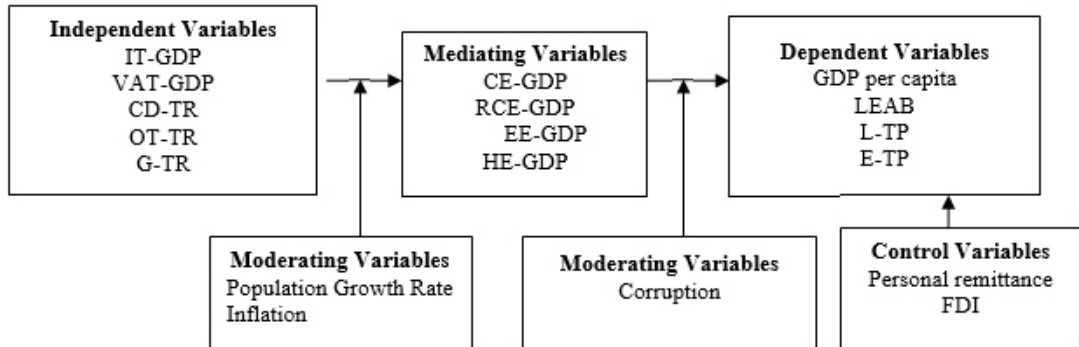
Methods and Procedures

Research Design

This study has employed causal-comparative research designs to deal with the fundamental issues associated with revenue generation and expenditure of the Nepal Government. The time series data has been analyzed for the period 2005 to 2020. Firstly, the trend of variables has been observed. Then the correlation and regression have been examined between and among the variables. While examining the regression results, the regression results between government revenues (independent variables) and performance measuring variables (dependent variables) were examined. Then after the government revenues and government expenditure both the variables are considered as determining variables at a time and dependent variables are performance measuring variables. Finally the moderating and control variables were added in the same model. While developing the regression models, the independent variables were chosen cautiously to avoid the multicollinearity problem.

Nature and Sources of Data

The secondary data has been used for the study period 2005-2020. The data were taken from reliable sources: the official website of World Bank, the Ministry of Finance, and Nepal Rastra Bank.

Methods for Data Analysis

Firstly, the regression results of whole study period (2005-2020) were examined. Then same results were examined and compared to the period before 2015 and after 2015. Because, in 2015 Nepal Government adopted the federal system instate of a unitary system. This supports examining whether the federal system does have an impact on government revenue collection, government expenditure and performance measuring variables or not. The following are the regression models.

Regression Models

Model:1 $(GDP\text{-}PC)_{it} = \beta_0 + \beta_1 (TR\text{-}GDP)_{it} + u_{it}$ …………………………………………………(i)

Model:2 $(GDP\text{-}PC)_{it} = \beta_0 + \beta_1 (GR\text{-}TR)_{it} + u_{it}$ …………………………………………………(ii)

Model:3 $(GDP\text{-}PC)_{it} = \beta_0 + \beta_1 (IT\text{-}TR)_{it} + \beta_2 (GST\text{-}TR)_{it} + \beta_3 (CD\text{-}TR)_{it} + \beta_3 (OT\text{-}TR)_{it} + u_{it}$ …(iii)

Model:4 $(CE\text{-}GDP)_{it} = \beta_0 + \beta_1 (IT\text{-}TR)_{it} + \beta_2 (GST\text{-}TR)_{it} + \beta_3 (CD\text{-}TR)_{it} + \beta_3 (OT\text{-}TR)_{it} + u_{it}$ …(iv)

Model:5 $(RCE\text{-}GDP)_{it} = \beta_0 + \beta_1 (IT\text{-}TR)_{it} + \beta_2 (GST\text{-}TR)_{it} + \beta_3 (CD\text{-}TR)_{it} + \beta_3 (OT\text{-}TR)_{it} + u_{it}$ …(v)

Model:6 $(GDP\text{-}PC)_{it} = \beta_0 + \beta_1 (IT\text{-}TR)_{it} + \beta_2 (GST\text{-}TR)_{it} + \beta_3 (CD\text{-}TR)_{it} + \beta_4 (OT\text{-}TR)_{it} + \beta_5 (CE)_{it} + \beta_6 (RCE)_{it} + u_{it}$ …………………………………………………………………………(vi)

Model:7 $(E\text{-}TP)_{it} = \beta_0 + \beta_1 (TR\text{-}GDP)_{it} + u_{it}$ …………………………………………………..(vii)

Model:8 $(E\text{-}TP)_{it} = \beta_0 + \beta_1 (GR\text{-}TR)_{it} + u_{it}$ ………………………………………………….(viii)

Model:9 $(E\text{-}TP)_{it} = \beta_0 + \beta_1 (IT\text{-}TR)_{it} + \beta_2 (GST\text{-}TR)_{it} + \beta_3 (OT\text{-}TR)_{it} + u_{it}$ ………………………………(ix)

Model:10 $(E\text{-}TP)_{it} = \beta_0 + \beta_1 (IT\text{-}TR)_{it} + \beta_2 (GST\text{-}TR)_{it} + \beta_3 (CD\text{-}TR)_{it} + \beta_3 (OT\text{-}TR)_{it} + \beta_4 (CE)_{it} + \beta_5 (RCE)_{it} + u_{it}$ …………………………………………………………………………………………………(x)

Model:11 $(LEAB)_{it} = \beta_0 + \beta_1 (TR\text{-}GDP)_{it} + u_{it}$ …………………………………………………..(xii)

Model:12 $(LEAB)_{it} = \beta_0 + \beta_1 (GR\text{-}TR)_{it} + u_{it}$ ……..………………………………………………….(xii)

Model:13 $(LEAB)_{it} = \beta_0 + \beta_1 (IT\text{-}TR)_{it} + \beta_2 (GST\text{-}TR)_{it} + \beta_3 (OT\text{-}TR)_{it} + u_{it}$ ………………….. (xiii)

Model:14 $(HE\text{-}GDP)_{it} = \beta_0 + \beta_1 (IT\text{-}TR)_{it} + \beta_2 (GST\text{-}TR)_{it} + \beta_3 (OT\text{-}TR)_{it} + u_{it}$ …………………(xiv)

Model:15 $(LEAB)_{it} = \beta_0 + \beta_1 (IT\text{-}TR)_{it} + \beta_2 (GST\text{-}TR)_{it} + \beta_3 (CD\text{-}TR)_{it} + \beta_3 (OT\text{-}TR)_{it} + \beta_4 (CE)_{it} + \beta_5 (RCE)_{it} + u_{it}$

....(xv)

Model:16   (L-TP) $_{it}$ = β_0 + β_1 (TR-GDP) $_{it}$ + u $_{it}$
....(xvi)

Model:17   (L-TP) $_{it}$ = β_0 + β_1 (GR-TR) $_{it}$ + u $_{it}$
....(xvii)

Model:18 (L-TP) $_{it}$ = β_0 + β_1 (IT-TR) $_{it}$ + β_2 (GST-TR) $_{it}$ + β_3 (OT-TR) $_{it}$ + u $_{it}$
.... (xviii)

Model:19 (EE-GDP) $_{it}$ = β_0 + β_1 (IT-TR) $_{it}$ + β_2 (GST-TR) $_{it}$ + β_3 (OT-TR) $_{it}$ + u $_{it}$
.......................(xix)

Model:20   (L-TP) $_{it}$ = β_0 + β_1 (IT-TR) $_{it}$ + β_2 (GST-TR) $_{it}$ + β_3 (CD -TR) $_{it}$ + β_3 (OT-TR) $_{it}$ + β_4 (CE) $_{it}$ + β_5 (RCE) $_{it}$ + u $_{it}$
....(xxi)

Where,

GDP-PC: Gross domestic product per capita (US dollar), E-TP: Employment to total population ratio, LEAB: Life expectancy at birth, L-TP: Literacy to total population ratio, RMER: Revenue mobilization and expenditure rating, TR- GDP: Total revenue to GDP ratio, IT – GDP: Income tax to GDP ratio, GDT-GDP: Total goods and services tax to GDP ratio, CD-TR: Custom duty to total revenue, OT-TR: Other tax to total revenue, G-TR: Grants to total revenue, CE-GDP: Capital expenditure to GDP, EE-GDP: Education expenditure to GDP, HE-GDP: Health expenditure to GDP, RCE-GDP: Recurrent expenditure to GDP, Inf: Inflation, CR: Corruption rating, FDI-GDP: FDI to GDP, and PR-GDP: Personal remittance to GDP

Results and Discussion

This section presents the statistical summary, trends of variables, correlation between variables and regression results. The table 2 presents statistical summary.

Table 2

Summary Statistics, Using the Observations (2005 – 2020)

Variables	Mean	Median	S.D.	Min	Max
GDP-PC	808	794	148	604	1061
E-TP	81.0	81.1	2.10	73.7	83.0
LEAB	67.6	67.5	1.26	65.5	69.6
L-TP	53.2	53.2	6.45	43.0	63.3
TR-GDP	15.8	15.0	3.72	10.7	22.4
IT-GDP	13.6	13.3	3.44	8.78	19.8
GST-GDP	40.0	40.3	3.64	33.9	47.5

CD-TR	20.9	20.2	2.80	17.8	27.5
OT-TR	1.49	1.18	0.898	0.492	4.19
GR-TR	24.4	24.3	5.98	14.5	34.4
CE-GDP	31.7	30.4	4.73	26.5	41.4
EE-GDP	3.64	3.53	0.357	3.20	4.66
HE-GDP	0.821	0.792	0.134	0.645	1.07
FC-GDP	81.6	81.7	3.24	76.6	88.4
INF	7.34	8.12	2.56	2.27	11.1
CR	2.94	3.00	0.171	2.50	3.00
FDI-GDP	0.290	0.316	0.219	-0.073	0.677
PR-GDP	22.4	23.6	3.84	14.9	27.6

Sources: Official Web Site of World Bank

The performance measuring indicator GDP per capita has increased from 608 US dollar to 1061 US dollars during the 15 years from 2005 to 2020. The average inflation rate is found 7.34 percent per year. The cumulative value of inflation for 15 years is 110 percent. The GDP per capita of 2005 AD was US dollar 608 becomes 1276 US dollar in 2020 AD. The real GDP growth rate was found less than the inflation-adjusted value. Therefore, the economic growth rate seems normally increasing but less than the inflation. Another performance measuring variable employment to total population ratio has been found to decrease after 2017 it has jumped down. The life expectancy at birth and literacy of total population has been found increasing and satisfactory.

Table 3

Results of Correlation Analysis between Variables

| GDP-PC	TR-GDP	E-TP	CE-GDP	LEAB	HE-GDP	L-TP	EE-GDP	RCE-GDP	Variables
1	**0.9663**	-0.664	0.637	0.967	0.883	0.9893	-0.051	-0.049	GDP-PC
	1	-0.537	0.7446	0.9354	0.846	0.9433	-0.042	-0.1878	TR-GDP
		1	**-0.136**	-0.643	-0.676	-0.712	-0.294	-0.306	E-TP
			1	0.5744	0.557	0.567	0.0127	-0.7031	CE-GDP
				1	**0.8796**	0.9779	-0.026	0.0564	LEAB
					1	0.8663	0.05	-0.096	HE-GDP
						1	**-0.030**	0.0706	L-TP
							1	-0.0643	EE-GDP
								1	R C E - GDP

Sources: Official Web Site of World Bank

The correlation between GDP per capita and Total revenue to GDP ratio has been found positive and high. It is expected that there is a positive relationship, this implies that if the total revenue to GDP ratio increases the GDP per capita also increases and vice-versa. Similarly, the government expenditure on health and life expectancy at birth has been found positive and high, this implies that if the government expenditure on health increases the life expectancy at birth also increases. However, the government expenditure on education and literacy to the total population has been found low and negative, as well as the government expenditure on capital nature expenditure and employment generation has been found low and negative. These results are contrasting to the theory that there is a positive high correlation relationship between government education expenditure and literacy to total population ratio as well as government capital expenditure and employment to total population ratio.

The trend of performance measuring variables (GDP per capita, employment to total population ratio, life expectancy at birth, and literacy to total population ratio, and revenue mobilization and expenditure rating) have been presented below.

Figure 2

Trend Line of Spending Effectiveness Measuring Variables
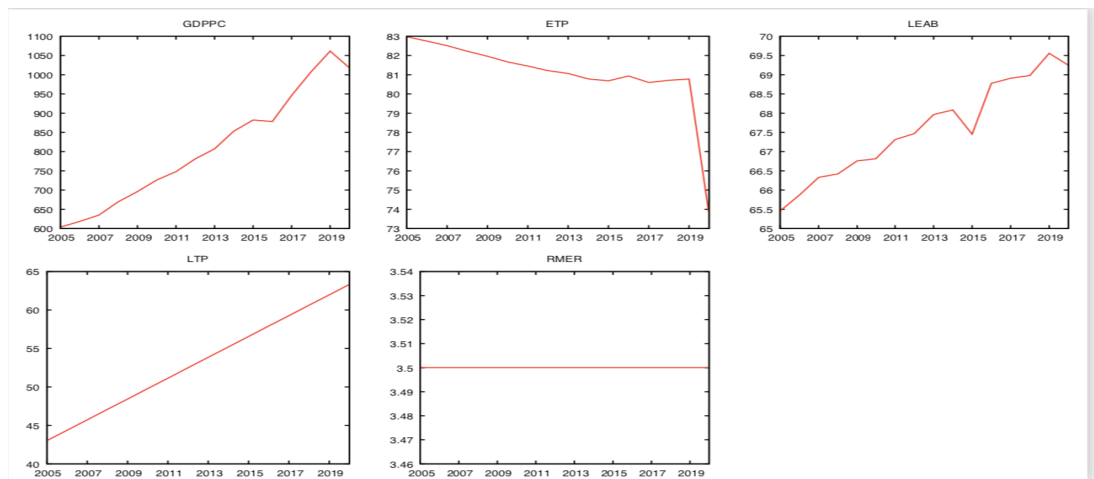
Three performance measuring variables literacy to total population ratio, GDP per capita and life expectancy at birth have increased during the study period. In specific the literacy to total population ratio has increased linearly during the whole study period. Similarly, the GDP per capita and life expectancy at birth have been increased considering the whole study period. But for a short fall has been found from 2015 through 2017 and after 2019 in the case of both the variables. However, the employment to total population ratio has been found declining for the whole study period and it has jumped down after 2019. The following are the regression results.

Table 4

Regression Results Considering GDP Per Capita as a Dependent Variable

Models	Constant	T R - GDP	Adj. R^2				
Model–1	199.429 (0.0005)	38.479 (0.000)	0.929	Dependent variable: GDP per capita Independent variable: Total revenue in percentage of GDP.			
Model–2	1373.84 (0.000)	−23.209 (0.000)	0.866	Dependent variable: GDP per capita Independent variable: Total grants in percentage of GDP.			

Models	Constant	IT-TR	GST-TR	CD-TR	OT-TR	Adj. R^2	DV: GDP-PC
Model–3	852.073 (0.0057)	45.323 (0.000)	−11.80 (0.018)	−7.809 (0.259)	−16.84 (0.161)	0.937	IV: IT-TR, GST-TR, CD-TR, and OT-TR
Model–4	−22.16 (0.274)	1.024 (0.046)	0.628 (0.084)	0.690 (0.201)	0.242 (0.785)	0.630	DV: CE-GDP IV: IT-TR, GST-TR, CD-TR, and OT-TR
Model–5	133.82 (0.000)	−0.447 (0.318)	−0.571 (0.092)	−1.048 (0.049)	−0.918 (0.283)	0.308	DV: RCE-GDP IV: IT-TR, GST-TR, CD-TR, and OT-TR

Model	Constant	IT-TR	GST-TR	CD-TR	OT-TR	CE-GDP	RCE-GDP	Adj. R^2
Model–6	1815.08 (0.121)	53.273 (0.000)	−9.647 (0.080)	−9.28 (0.287)	−22.40 (0.115)	−11.74 (0.193)	−9.14 (0.332)	0.938

DV: GDP-PC, IV: IT-TR, GST-TR, CD-TR, and OT-TR, CE-GDP, and RCE-GDP

Notations: The upper value represents coefficients of regression results and the value in parenthesis denotes P value. If the P value is less than 0.05, the alternative hypothesis is accepted and vice-versa.

While considering the GDP per capita as dependent variable, income tax able to explain the proportional changes on GDP per capita. The result shows that there has been a positive relationship between income tax and GDP per capita; this implies that as the income tax increases the GDP per capita also increases. Similarly, the government capital nature expenditure does mediate the relationship between government revenues and GDP per capita rather than other mediating variables. The population growth rate and inflation do moderate the relationship between income tax and GDP per capita.

Table 5

Regression Results Considering Employment to Total Population as a Dependent Variable

Models	Constant	TR-GDP	Adj. R^2	
Model – 7	85.796 (0.000)	−0.303 (0.031)	0.238	Dependent variable: Employment to total population Independent variable: Total revenue in percentage of GDP.

Model – 8	77.118 (0.000)	0.159 (0.077)	0.149	Dependent variable: E-TP Independent variable: Total grants in percentage of GDP.			

Models	Constant	IT-TR	GST-TR	CD-TR	OT-TR	Adj. R^2	DV: E-TP
Model – 9	52.540 (0.000)	−0.65 (0.000)	0.737 (0.000)	0.336 (0.028)	0.601 (0.023)	0.869	IV: IT-TR, GST-TR, CD-TR, and OT-TR

Model	Constant	IT-TR	GST-TR	CD-TR	OT-TR	CE-GDP	RCE-GDP	Adj. R^2
Model – 10	62.29 (0.024)	−0.554 (0.010)	0.772 (0.000)	0.334 (0.094)	0.547 (0.082)	−0.144 (0.449)	−0.096 (0.63)	0.853

DV: E-TP
IV: IT-TR, GST-TR, CD-TR, and OT-TR, CE-GDP, and RCE-GDP

Note: The upper value represents coefficients of regression results and the value in parenthesis denotes the P value. If the P value is less than 0.05, the alternative hypothesis is accepted and vice-versa.

While considering the employment to the total population as a dependent variable, the relationship between government revenue and employment to total population ratio has been found to contradict the presumed hypothesis. It has been presumed that the higher the government revenue higher the employment to-total population ratio. But the result shows that inverse relationship. The reason behind that could be the government has been widening the sources of tax for instance, social security tax, and other indirect tax and so on. However, the employment to total population ratio has been decreasing. Therefore, the relationship between government revenue and employment to total population ratio has been found inverse. The relationship between government expenditure and employment generation has been found inverse. It also contrasting results with the presumed hypothesis that there is a positive relationship between government expenditure and employment generation. The reason behind that could be decrease in employment to total population ratio and increase in government expenditure. Finally, it can be concluded that the employment generation is not found satisfactory for the study period from 2005 to 2020.

Table 6

Regression Results Considering Life Expectancy at Birth as a Dependent Variable

Models	Constant	TR-GDP	Adj. R^2	
Model – 11	62.565 (0.000)	0.317 (0.000)	0.866	Dependent variable: LEAB Independent variable: Total revenue in percentage of GDP.

Models	Constant	IT-TR	GST-TR	CD-TR	OT-TR	Adj. R^2	
Model – 12	72.417 (0.000)	−0.198 (0.000)	0.870				Dependent variable: LEAB Independent variable: Total grants in percentage of GDP.

Models	Constant	IT-TR	GST-TR	CD-TR	OT-TR	Adj. R^2	
Model – 13	71.377 (0.000)	0.306 (0.0002)	−0.1036 (0.025)	−0.177 (0.014)	−0.081 (0.456)	0.924	DV: LEAB IV: IT-TR, GST-TR, CD-TR, and OT-TR
Model – 14	1.0278 (0.0732)	0.0427 (0.005)	−0.016 (0.083)	−0.004 (0.762)	−0.014 (0.542)	0.665	DV: HE-GDP IV: IT-TR, GST-TR, CD-TR, and OT-TR

Model	Constant	IT-TR	GST-TR	CD-TR	OT-TR	CE-GDP	RCE-GDP	Adj. R^2
Model – 15	71.32 (0.000)	0.371 (0.0006)	−0.067 (0.167)	−0.141 (0.090)	−0.074 (0.539)	−0.068 (0.394)	−0.010 (0.89)	0.929

DV: LEAB
IV: IT-TR, GST-TR, CD-TR, and OT-TR, CE-GDP, and RCE-GDP

Note: The upper value represents coefficients of regression results and the value in parenthesis denotes the P value. If the P value is less than 0.05, the alternative hypothesis is accepted and vice-versa.

While considering life expectancy at birth as the dependent variable, the relationship between total revenue and life expectancy at birth has been found positive and significant. Similarly, the relationship between income tax and life expectancy at birth as well as the relationship between health expenditure and life expectancy at birth has been found positive and significant. This implies that if the government revenue, income tax collection and government expenditure on health are increased that improves the life expectancy at birth. Whereas, the relationship between life expectancy at birth and indirect tax and grants has been found to contrast with the presumed hypothesis. There is a positive and significant relationship between indirect tax and life expectancy at birth.

Table 7

Regression Results Considering Literacy to Total Population Ratio as a Dependent Variable

Models	Constant	TR-GDP	Adj. R^2	
Model–16	27.32 (0.000)	1.633 (0.000)	0.881	Dependent variable: L-TP Independent variable: Total revenue in percentage of GDP.
Model–17	77.658 (0.000)	−1.004 (0.000)	0.857	Dependent variable: L-TP Independent variable: Total grants in percentage of GDP.

Models	Constant	IT-TR	GST-TR	CD-TR	OT-TR	Adj. R²	DV: L-TP IV: IT-TR, GST-TR, CD-TR, and OT-TR
Model–18	74.290 (0.000)	1.774 (0.000)	−0.692 (0.001)	−0.786 (0.011)	−0.73 (0.127)	0.947	
Model–19	7.245 (0.013)	0.0158 (0.791)	−0.069 (0.127)	−0.048 (0.47)	−0.002 (0.985)	-0.066	DV: EE-GDP IV: IT-TR, GST-TR, CD-TR, and OT-TR

Model	Constant	IT-TR	GST-TR	CD-TR	OT-TR	CE-GDP	RCE-GDP	Adj. R²
Model–20	65.885 (0.133)	2.041 (0.000)	−0.522 (0.019)	−0.591 (0.088)	−0.654 (0.209)	−0.251 (0.444)	0.021 (0.951)	0.953

DV: L-TP
IV: IT-TR, GST-TR, CD-TR, and OT-TR, CE-GDP, and RCE-GDP

Note: The upper value represents coefficients of regression results and the value in parenthesis denotes the P value. If the P value is less than 0.05, the alternative hypothesis is accepted and vice-versa.

While considering literacy to total population as the dependent variable, there has been positive and significant relationship between total revenue and literacy to the total population. Similarly, there has been positive and significant relationship between income tax and literacy to total population ratio. However, the relationship between government expenditure on education and literacy rate has been found to contrast rather than the presumed hypothesis that there is a significant and positive relationship between literacy to total population and government expenditure in education.

Here are the major findings of this study:

1. The study found that the GDP per capita, literacy rate and life expectancy at birth have been increasing. But the employment to total population ratio has been decreasing during the study period of 2005-2020.

2. There has been the high association between government revenue and GDP per capita as well as health expenditure and life expectancy at birth. But there has been the low association between capital expenditure and employment generation as well as education expenditure and literacy rate.

3. Among all the income-generating sources income tax has been found important variable where, the government expenditure does not lead to effectiveness.

4. Personal remittance has been positive and significant relationship with GDP per capita. But the Inflation rate has been negative and significant relationship

with GDP per capita. However, the population growth rate, corruption, and foreign direct investment have low effect on effectiveness measuring variables.

5. There has been no significant difference in the results between before and after 2015.

Conclusion

The government collects revenue from different sources and spends for the welfare of citizens. As the income and expenditure increase that should enhance the performance measuring variables. However, the findings from empirical analysis of data for the period 2005 to 2020 in the context Nepal do not hold the presumed assumption.

The findings of the study support to the government for the policy formulation and monitoring mechanism. The study's consequences for policymakers in Nepal are obvious. Concerns about employment must be addressed in order to boost the labor market. Health and education spending must also be increased in order to increase literacy rates and life expectancy. The most efficient use of resources is essential to effective government spending. Remittances can be used to increase economic growth, but stabilization requires strong monetary policy to reduce inflation. In order to evaluate policy effects and make required adjustments over time, performance factors must be continuously monitored.

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